What is claimed is:

1. An optical performance monitoring apparatus for use in a WDM (Wavelength Division Multiplexing) optical communication system, the apparatus comprising:

a first optical distributing means for distributing a WDM optical signal branched from an optical transmission line;

a plurality of wavelength selecting means, each for selecting a predetermined wavelength optical signal from the optical signal distributed from the first optical distributing means;

a plurality of first optical detecting means, each for detecting power of the predetermined wavelength optical signal for a corresponding one of channels selected by the plurality of the wavelength selecting means;

a second optical detecting means for detecting total power of the optical signal distributed from the first optical distributing means;

a plurality of second optical distributing means, each for transmitting the optical signal outputted from the first optical distributing means to the corresponding one of the wavelength selecting means and transmitting the predetermined wavelength optical signal selected by the corresponding one of the wavelength selecting means to the corresponding one of the first detecting means;

a selecting means for selecting one of the powers of the optical signals detected by the plurality of the first optical

detecting means and the second optical detecting means;

a signal converting means for converting an analog value of the power applied from the selecting means to a digital value; and

a signal processing means for measuring the power for each channel of the WDM optical signal, a total ASE (Amplified Spontaneous Emission) noise power , and an optical signal-to-noise ratio for each channel from the digital value from the signal converting means.

2. The apparatus as recited in claim 1, wherein the signal processing means includes a memory storing ASE noise profile for each wavelength of the optical amplifier depending on input power level and a upper limit the total ASE noise power of the optical amplifier.

3. The apparatus as recited in claim 2, wherein the plurality of the wavelength selecting means are optical fiber Bragg gratings.

4. The apparatus as recited in claim 1, wherein the second optical distributing means is an 1x2 optical coupler.

5. The apparatus as recited in claim 1, wherein the second optical distributing means is an optical circulator.